

AMERICAN BEE JOURNAL

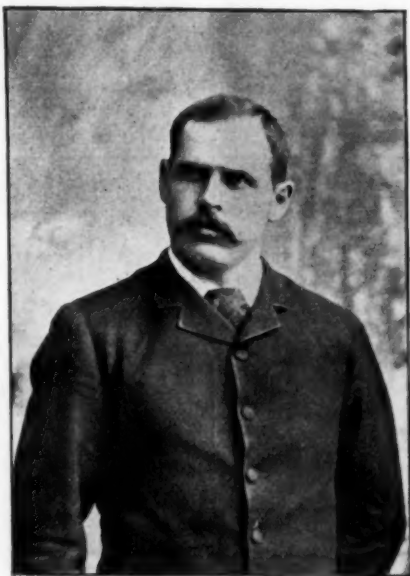


GEORGE W. YORK,
Editor.

CHICAGO, ILL., MARCH 14, 1901

FORTY-FIRST YEAR
No. 11.

WEEKLY



MR. O. L. HERSHISER,
*Superintendent of the Apiarian Exhibit at the Pan-American
Exposition.*



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National Bee-Keepers' Association**OBJECTS:**

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey commission-men.

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ARE DEMANDED NOW.



ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with \$2); or, one Tested Queen free as a premium for sending us FOUR new subscribers (with \$4.00.)

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

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CASH PRICES of these fine queens will be as follows: Untested, \$1.00 each; Tested, \$2.00 each. Send all orders to

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28 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 28 cents a pound—CASH—for best yellow, upon its receipt, or 30 cents in trade. Impure wax not taken at any price.

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ALL IN 60-POUND TIN CANS.

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This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.

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This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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ESTABLISHED IN 1861 AMERICAN THE OLDEST BEE-PAPER IN AMERICA BEE JOURNAL

41st YEAR.

CHICAGO, ILL., MARCH 14, 1901.

No. 11.

* Editorial Comments. *

The Home Circle.—We begin this week a new department of the American Bee Journal, called THE HOME CIRCLE. As will be noticed, it is in charge of Prof. A. J. Cook—a man of excellent ability, wide experience, and a most helpful writer. We trust that thru this feature of the old Bee Journal every member of the family may be greatly benefited.

It would be a nice practice to gather all the family around the fireside, and have some member read aloud the whole of this new department each week. As each paragraph is read it could be discussed or commented upon very helpfully by father or mother, or the older members of the family, and thus pass a most entertaining hour or evening.

We hope, also, that many will avail themselves of the invitation which Prof. Cook extends to all who can do so, to aid by sending to him such items of general interest and helpfulness as may be thought to be suitable. Of course, all such may not be deemed available, but doubtless a goodly proportion would be approved.

It is not our intention to allow "The Home Circle" to trespass upon the space usually devoted to bee-keeping, but we shall likely run fewer of our own advertisements, and devote the space thus occupied to matter that shall be of real value to every member of the family, whether interested in bees or not. We feel that in so doing we will be advancing the good of all, and thus be extending the influence of the "Old Reliable" in a way that will be commended by every one who desires to see it fulfill its highest mission.

We bespeak for both Prof. Cook and "The Home Circle" a cordial reception by every family into which the old American Bee Journal has already won its way.

Home-Apiary of Mr. E. J. Baxter.—On page 171 will be found a picture of the home-apiary of Mr. E. J. Baxter, of Hancock Co., Ill. Mr. Baxter is a native of Newark, N. J., but he has lived nearly all his life in Hancock Co., Ill. He is a son-in-law of Mr. Chas. Dadant, and for the past 23 or 24 years has kept bees on a large scale, having from two to four apiaries most of the time. He uses large hives, and extracts the greater part of his honey. In reply to enquiries as to his success in the production of honey, he says:

"The book containing my honey-crop statistics previous to 1896 is mislaid, but I can give you my exact returns for honey sold since that time, and some approximation of previous crops. The past five years have yielded me as follows: 1896, \$523.40; 1897, \$1,192.92; 1898, \$407.70; 1899, \$534.98; 1900, \$42.30. The average number of colonies I have kept during this time has been 225. The past five years have been about the poorest, the last being the very worst of all.

"My best years were 1882, 1883, and 1889. In 1882 the bees averaged me over \$10 per colony net, but I don't remember the exact amount.

"In 1883 an apiary that I established at Powellton, of 41 colonies, yielded a little better than 23 barrels of honey, one colony yielding 640 pounds. I believe that the total for that year was in the neighborhood of 23,000 pounds from 123 colonies, spring count.

"In 1889 I harvested something over 33,000 pounds for my own share, besides the one-fifth that I gave to the persons on whose grounds the out-apiaries were located. All but five barrels was clover honey, and netted me about \$2,500.

"Our crop is clover, heartsease, and Spanish needle.

"As to the strain of bees, I have blacks, Cyprians and Italians. The Italians have always done the best, in poor seasons usually having plenty of stores to winter on if no surplus, while the blacks are on the verge of starvation.

"I have used Langstroth, Simplicity, and Dadant-Quinby hives, and

the latter having given me the best results I have now no other kind. Until the past year I have done nearly all the work in the several apiaries except during extracting time, when I have the usual crew of four besides myself, if the crop is good. I now have two out-apiaries besides the home-apiary shown in the picture."

Mr. Baxter is also a large fruit-grower. He is one of the firm of Baxter Bros., who own several large vineyards and extensive strawberry-beds. Their shipments of strawberries, raspberries, grapes, etc., amount each year to over a hundred car-loads; but E. J. Baxter says that his bees have brought him more profit, for the time involved in their care and the capital engaged, than any other enterprise in which he has ever been.

Making an Observatory Hive.—One of our subscribers in the State of Washington asks us to give plans or directions for building an observatory hive. Also the best location to place it for observation; and he wishes to know whether such can be purchased from bee-supply manufacturers.

Of course, anything in the bee-line can be gotten from the bee-supply manufacturers, if they are told just what is wanted.

Almost any one who is handy with ordinary carpenter's tools can make an observatory hive, something after the style of an ordinary hive, only with glass sides. Perhaps the most successful would be made for only two brood-frames, tho they are often made for one frame. Then the frame or frames can be lifted from the hive with the bees, queen, etc., and put into the observatory hive.

If we were going to keep bees in an observatory hive we think we would have it at the window of one of the living-rooms of our house, having it so placed that the bees could work in and out just the same as if they were outdoors, but have it so arranged that they could not get outside of their hive into the living-room.

Apiculture at the Pan-American.—As we have announced before, Mr. O. L. Hershiser is the live superintendent of the apiarian exhibits at the Pan-American Exposition, which opens in Buffalo, May 1, 1901, to continue six months thereafter. Here is what he has to say in Gleanings in Bee-Culture regarding the proposed exhibit in the interest and representative of bee-keeping:

Judging from present indications the apiarian exhibit will not be least among the many novel and instructive attractions. It promises to eclipse everything in this line ever attempted, and this, notwithstanding the general shortage in honey-production in many localities within the United States and Canada during the past two years.

This exhibit will be a veritable wonderland, not only for apiarists, but for that larger class of users and consumers of honey. It is designed to make this exhibit educational as well as entertaining, to the end that the fallacies affecting the pursuit of apiculture may be, as far as possible, rectified.

A model apiary will be in operation to show, in a practical way, just how both comb and extracted honey are produced. Exhibits, showing the relation of bees to horticulture, will be a prominent feature, and the mistake of spraying fruit-trees when in bloom will be demonstrated, as well as the absolute necessity of the presence of bees during the season of bloom in order to make horticulture, in any sense, a paying pursuit.

Vast quantities of both comb and extracted honey, prepared in the most attractive and appropriate forms for market, will be shown. It is safe to say that this most interesting feature of the exhibit will include the nectareous products of all valuable honey-plants to be found within the Americas and the island possessions of the United States.

There will be a complete and exhaustive display of manufactures therefrom.

A distinctive exhibit of honey-plants, as a part of the general outdoor-growing horticultural and floral exhibits, is contemplated.

There will be several large and attractive exhibits of apiarian supplies, comprising specimens of all approved hives and every tool, device, and preparation needed in the pursuit of apiculture.

Several State and Provincial exhibits are already assured, and others are under advisement. It may also be stated that individuals, no matter where situated within the Americas, have an opportunity to

exhibit their apiarian manufactures and products. One person in this class proposes to install an exhibit comprising a car-load of 30,000 pounds of comb honey, and it is expected that there will be others of great magnitude, especially from localities noted for large productions of honey of a standard and uniform grade, as is the case with the alfalfa of Colorado, the sage of California, and the basswood of Wisconsin. Many of these, as well as some State exhibits, will be of the present season's honey harvest, and will not be installed before the middle of July to the middle of August; but application for space should be made early, in order that it may be provided.

Apiculture is accorded a prominent place in the Exposition, and a special building, in an excellent location, will be provided for the apicultural exhibits, the extent and size of which will be commensurate with the needs and desires of the bee-keepers who will exhibit.

It begins to appear that Mr. Hershiser is going to try to outdo the combined apiarian exhibits at the World's Fair in 1893, and the Omaha Exposition in 1898. We hope he will succeed. He is a hard worker, and deserves every encouragement in his huge undertaking. Surely, his objects, as stated above, are highly creditable, and, if carried out, ought to help to elevate bee-keeping and the products of the apiary to a higher plane than they have occupied before in the estimation of the public.

The American Bee Journal is ready to do all in its power to aid in making the apiarian feature of the Pan-American the most entertaining and educative of any to be shown.

"Watch the Bees"—Robbers.—A subscriber at Ackley Station, Pa., wrote us as follows Feb. 18th:

I enclose a clipping from the Farm and Home. It is a good thing we don't depend on farm papers for our bee-information.

The clipping referred to reads as follows:

WATCH THE BEES.—Be sure they have food enough. This can be easily ascertained by lifting the stands. They should weigh at least 75 pounds. If they are not supplied dissolve white sugar in water, enough to make a thick syrup, place in shallow pans and put immediately in front of stand on warm, sunny days. Watch for robbers if this is done. Your own swarms will not rob one another.—M. HALE, Coos Co., N. H.

When it comes true that "Your own swarms will not rob one another," it will no doubt also be true that two roosters will not fight if they belong to the same owner, and there will be no possible chance that one dog will snatch a bone from another unless they belong to different owners. There is, however, a serious side to this matter. In some cases a man will be punished who pretends to practice medicine without proper qualification. He must know enough about the laws of health to be able to instruct his patients as to their health, or he is guilty of crime. Altho less in degree, is it not of the same kind when a journal ostensibly gives instruction upon agriculture, and knows nothing about the matters it treats of? If a physician is subject to punishment when guilty of mal-practice, should not an agricultural paper be punished when guilty of mal-practice in its instruction? Farm journals should give reliable instruction as to bees, or let bees alone.

It says in the clipping that the "stands" should be lifted, and should weigh 75 pounds! If a "stand" weighs 75 pounds, how much should the hive, with bees and combs, weigh?

* The Weekly Budget. *

MR. JOHN B. YORK, the Father of the editor of the American Bee Journal, died of pneumonia at Randolph, Portage Co., Ohio, Sunday, March 3d, and was buried there March 6th. We returned this forenoon (March 8th) from our old home, where we laid to rest one of the best men that ever lived. He was a sincere, earnest Christian worker, and a member of the Methodist Episcopal church for 55 years, most of the time in some official capacity.

Father was born Aug. 24, 1829, in Starke Co., Ohio, only a few miles from where he died. He left mother and seven children to mourn his departure—four sons and three daughters, the youngest being a son 28 years of age, and the only one unmarried. Father lived to see his children grown up, and all in comfortable circumstances. He believed that to give them a fair education, and ability to look out for themselves, was far better than to leave them financial wealth. He was wise in thus doing. We believe father was fully ready not only to die, but also to live again—in the Eternal Home, where all his family hope to meet him by and by, to part no more.

MR. A. L. BOYDEN, of the A. I. Root Co., has recently been in Cuba, and gives a report of his trip in *Gleanings in Bee-Culture*. It seems he visited some box-hive apiaries owned and managed by natives. At one of these he desired to take some photographs, but the Cuban bee-keeper didn't quite understand the kodak act. Mr. Boyden continues:

When I went to the lower end of the yard to snap my kodak he came rushing up, gesticulating wildly and talking vociferously. The bees were getting roused up at this point; and as I did not understand his Spanish, I concluded that he was afraid I would get stung. Being a bee-keeper myself, I determined to take my chances, and so held my ground until I had made two exposures (both failures, however), and then went back to the upper end of the yard, where the rest of the company were. When I got there I found I had offended this man very much indeed, for he thought I had come with some sort of music-box to entice his bees away. It is reported that he lost a large number a year or two ago in the same way, and he is very suspicious of anything he does not understand now. We tried to explain the matter to him, but did not succeed in pacifying him.

EDITOR E. R. ROOT has the following paragraph in *Gleanings in Bee-Culture*, with this heading, "York's Patent Double-Acting Bees:"

While we were on the cars en route to the Wisconsin convention, Mr. York poked fun at Mr. Hutchinson and myself on this matter of measuring bees' tongues. Mr. Rankin, you are aware, measures the whole tongue, while we measure from the mandibles to the end of the tongue. When Mr. Hutchinson and I were discussing which was the right way, Mr. York facetiously remarked that he had a plan that was better than either; and that was, to measure from the end of the bee's tongue to the end of the sting. There could be no confusion if we measured thus. And he proposed, further, that Hutchinson and I go into the business of breeding bees that could suck up nectar from "both ends" at one time, something like a patent double-acting double-plunger pump.

When those two editors have queens for sale of the double-acting kind of bees, we will give them a free advertisement. Only we hope they won't develop long stings at both ends, also!

MR. H. T. GIFFORD, of Brevard Co., Fla., we learn from Mrs. F. C. Prange, "was shot Feb. 16th by C. D. Reed, a renter. There had been some dissatisfaction about the crops, it seems, but no heated words for over three weeks. Reed used a shot-gun loaded with No. 4 shot, fired without warning, at a distance of 50 feet. Mr. Gifford was unarmed, and was pumping water for his horse. He saw Reed when he aimed, and threw his head and body behind the pump and platform. This saved his life, but he was badly wounded." Mr. Gifford is one of our subscribers, being 62 years old, and most highly respected by the residents of Indian River district in Florida, as well as in his native State, Vermont. We regret very much to learn of this very unfortunate occurrence, and trust that Mr. Gifford will fully recover.

NOT A BEE-HIVE.—The following is told at the expense of an American gentleman who was recently stopping with his wife at Hotel Cecil. On their first evening there he happened to retire somewhat later than his spouse. Arriving at the door of what he imagined to be his room, and finding it locked, he tapped and called, "Honey!" No answer came, and he called again more loudly, "Honey!" Still he got no reply, and becoming somewhat uneasy he shouted the endearing term with his full lung power. This time a reply came, and in a male voice: "Go away, you blithering idiot! This is a bath-room, not a blooming bee-hive!"—London Express.

YELLOWZONES is the name of a valuable tablet remedy gotten up by Dr. W. B. House, of Detour, Mich. They are intended for the alleviation of all fevers, headaches, coughs, colds, grip, rheumatism, neuralgia, colic, dyspepsia, heart diseases, etc. We have tried this remedy for some of the troubles mentioned, and find it all right. We would advise our readers to send to Dr. House for circular and further information, if interested. Please mention seeing this notice in the Bee Journal, should you write to him.

MR. R. B. LEAHY, of the Leahy Mfg. Co., called on us Friday, March 1st, when on his way to visit Wisconsin bee-supply dealers. We didn't think he seemed as well as some years ago, tho he said he felt better than for some time past. He is taking things easier than formerly, saying he doubted if he would ever again work as hard as he did for some years. Nice thing to be able to "let up," we presume, and let others worry over business, etc.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 133.)

THE SECRETARY'S REPORT.

During the past year no complaints have been made to me by any of our members of any trouble in obtaining payment for consignments of honey, but the case to which reference was made at the Philadelphia convention last year has not yet been adjusted.

In 1899, Mr. W. C. Gathright, one of our members in New Mexico, made a small shipment of comb honey to Mr. H. P. Robie, of Sioux Falls, S. Dak., and failed to get his pay. I wrote Mr. Robie twice regarding the matter before I got a reply. He promised to pay, but wanted a little time. After waiting a long time I wrote to him twice, but as yet have no reply, and, thinking it advisable to collect the amount if possible, I obtained his commercial rating, which in part is, "He is running a small newspaper called the Successful Farmer. Is of small financial means, and not known to have anything in excess of exemptions. . . . and can not be recommended for general credit dealings."

I informed Mr. Robie of the objects of our Association, and told him that unless settlement was made bee-keepers would be informed as to his method of doing business, and cautioned regarding their dealings with him.

This is the only case in which, during the past five years, I have failed to make a settlement in the name of the Association.

A. B. MASON, Sec.

Pres. Root—Are there any other matters to come up before we adjourn?

Mr. Abbott—The Legislative Committee.

Pres. Root—I will name on that committee Messrs. R. L. Taylor, O. L. Hershiser and Herman F. Moore.

Mr. Abbott—Let me say briefly that the purpose of that committee is to look up the laws in the various States relating to bee-keeping, and to draft such laws as are thought proper in the interests of bee-keepers. Those laws will then be submitted to the General Manager, and when you want a law past in your legislature you send to the General Manager to get a copy of that law, then each State will have a uniform law, and you will have one drafted ready to push thru. I have a man now in Missouri who says he will put one thru our legislature this winter.

Pres. Root—Is there anything further that should come before this convention before we finally adjourn?

Dr. Mason—Nothing is yet known as to the time or place of our next meeting; we have been following the Grand Army Encampment; they have not decided where they will meet; as soon as we have decided you will learn of it in the bee-papers.

Mr. Root—If there is nothing more, I think we may consider ourselves adjourned, *sine die*.

Owing to some misunderstanding no report has been sent to me of the Wednesday evening session by the stenographer, and altho I have twice written about it, and it was promised, it has not been received, and as Mr. J. M. Rankin's paper on "Breeding for Longer-Tongued Bees" was read at that session, I have been waiting the arrival of the stenographer's report before inserting his paper in the report, but as it seems probable no report will be made, Mr. Rankin's paper will be inserted here.

BREEDING FOR LONGER-TONGUED BEES.

The subject which was assigned to me to discuss is one which has but recently been considered by the public as an important one. There are a few men who have been working along this particular line for years, but for some reason or other they have neglected to inform the public as to their results. It may be that they were afraid of being laughed at for working on such a crazy hobby, or it may be any one of a dozen other reasons; but the facts of the case are, that no

attention has been given it by the bee-keepers until the last three months.

When beginning work of this kind it is always well to stop and consider the probable advantages that would be gained if we were successful in accomplishing it. And also count the cost of bringing about the desired change. Then, by mathematical calculation, as it were, we can determine whether or not it is worthy of our consideration. The one great advantage in having bees with a tongue 8 or 9 mm. long, would be that they would be able to gather nectar from the flowers whose corolla-tubes are now too deep for them to work on. There would be myriads of plants whose honey deposits would be of easy access to our bees, which at present are entirely useless except to the bumble-bee. The principal one of these would be red clover. It is a known fact that as the country becomes cleared away, and the wild vegetation with the forests give way to the farmer's corn, potatoes, and hay, that the bee-keeper realizes that it is time to move to better pastures. His crop has become too uncertain to be profitable.

If the honey-bee could reach the nectar in the clover-heads, the bee-keeper would not find it necessary to move. When there is only an ordinary amount of honey in the corolla-tubes, it is of no value to the honey-bee, because it is out of her reach. She is compelled to wait until a moist or favorable time, when the nectar rises to within 3 or 4 mm. of the top of the tubes. What a difference it would make in the honey-crop, in these old sections of the country, where clover comprises half of the hay crop, if a bee could work freely on it!

When beginning this work I sought the advice of several scientific men. I received no help, and no encouragement. One of the most prominent entomologists in the country said that if I had nothing else to do for the next hundred years, it would be a pleasant way to spend my time in trying to accomplish something which was an impossibility. Had I been wise I should probably have taken his advice, but I did not. I went to work to contrive some way of measuring the tongues of the bees. After much experimenting I settled on a compound microscope with an mc. scale, and a camera lucida attachment. The bee was killed by chloroform, the tongue removed, placed on a slide, and held in position by a cover-glass. The image of the scale, as well as that of the tongue, was then thrown on the desk beside the instrument. This, however, proved to be a very unsatisfactory method, as it is a difficult matter, and requires the best of the day to make the adjustments of the microscope.

The method finally adopted was to place the tongue on a slide which contained the mc. scale, then to hold the tongue in place by a cover-glass, and place the whole on the stage of a simple or single lens microscope. By this method it is impossible to get the measurements down finer than .1 mm.; but this is close enough for all practical purposes. Many devices have been made to measure the tongue while the bee is still alive. So far as I have found none of these have been practical. The only fact that is of value that I have obtained from them is that during life the tongue can be stretched to a certain extent, at the pleasure of the bee. Just how much it can be stretched I am not now prepared to say. When I had found a way of measuring I was glad to know that the tongues of a certain colony were comparatively uniform, that is, that each strain had a particular length of its own.

After securing the best stock it was possible to find, queens were procured from this stock, and the selections began. The idea that presented itself to me was to cross and recross two good strains, thinking that we would in time produce something much superior to the original strain. It is by this method that all the improvements have been made in live stock.

It was right here that the difficulty presented itself, namely: How should I control the mating of the queens? Every method imaginable was tried, with little success. I have clipped the tips of the queens' wings, with the intention of impairing their flight; have taken off all the way from a hair-breadth to half the wing, but out of 65 queens thus treated only one was mated.

I then tried the plan of cellaring the nucleus containing the virgin queen, and also a full colony of bees containing drones. Then I released them towards evening, after the drones in the yard had ceased to fly. The results were little better than those of the first method.

The only plan which has given me satisfaction is to keep a colony with drones queenless until toward the close of the season, and after the other drones in the yard are killed off. The virgin queens would generally be success-

fully mated. This plan, however, prevents more than one cross in a season. It has been proven that in the case of live stock, where breeding from nature toward a certain type, that the selections must be from both the male and the female, and of the two the male is the more important. It is necessary, therefore, to control both sides if we wish to develop a longer tongue, because it is not a natural tendency.

After three years of failure and success from these and other methods, from stock which measured 5, 8, and 6 mm., I have made two direct crosses, and the result is stock which measured 6.4 mm.

There is as yet a question as to what will be the outcome of this idea. The problem which confronts us at present is that of mating the queen. When we succeed in this we may experience the difficulty of having our stock suffer from in-and-in breeding, but this can doubtless be overcome.

If some one will take the contract of mating the queens as I want them mated, I would agree to develop the strain of bees with a tongue as long as desirable.

There are three methods, it seems to me, of accomplishing the desired results. One would be to sow a large barren tract on some island in the sea with our June clover. The corolla-tubes of this would be short because the soil would be too poor to grow the clover thrifty. An apiary located in this clover would reap a fine harvest from it because of its short corolla. Then we would gradually lengthen the corolla-tubes by adding fertilizers to the soil, and in a few hundred years we would have bees that would successfully obtain a harvest from June clover. We all know that it is the tendency of animal life to adapt itself to its surroundings. So the bees would have gradually stretcht their tongues to reach the nectar in the clover. This method can hardly be considered practical.

The next best thing will be to increase the length of the tongue by direct crossing. This method will, at the best, require many years of careful work. Why not add to this another method which will work in with this one perfectly, namely, to breed a race of clover with a shorter corolla-tube? Plants are more variable than animals, and therefore more easily changed from their original types. There are examples of this all around us. From a small yellow variety of corn, with an ear less than 6 inches long, and a stalk not 3 feet high, we have the large varieties of Dent which stand 10 feet, or even more, in height, and bear two or three ears. Cabbage and lettuce have been selected with a view to the value of their leaves. Phlox drumundi has within the last 50 years been changed from a small pinkish flower to the beautiful double white flowers of the present time. All these have been selected with a view to a certain type. Clovers have been developed with a view to a forage crop, and nowhere is there any record of work being done on the flowers themselves. Dr. Beal—one of our best authorities on botany, and especially grasses—said while talking with me on this subject: "A field of clover represents as many and as varied types of the same species as would a field of corn planted from a mixture of all the known varieties." It seems to me, then, that there is a chance to do some good work on the clover. There would be little danger of its going back to its original type, for only the short corolla-tubes would be fertilized by the honey-bees, and the first crop of this clover would yield the seed.

Let me impress upon you that in all probability there are few present here to-night who will live to see bees work freely on June clover. Do not misunderstand me. I honestly believe that it is possible to breed a strain of honey-bees with tongues long enough to work clear to the bottom of a June clover-blossom, but the process will be a slow one, and probably not practical for the ordinary bee-keeper to undertake. What I do think will be practical, and should be done by every bee-keeper, is to keep the longest-tongued stock that it is possible for him to find.

I dare say that next season there will be cataloged by the leading supply-dealers a piece of celluloid with a mc. scale, lense, and a half-dozen cover-glasses thrown in. They will offer the whole outfit for about \$2.00, and every up-to-date bee-keeper will know the length of the tongues of every strain of bees in his yard, and will rear his queens accordingly.

I think that in the past the ordinary bee-keeper has been too likely to rear his queens "just as it happened," or possibly has paid special attention to the three or five yellow bands. This is all wrong. When selecting a work-horse we do not pick out a sharp-backed, slab-sided horse just because he works willingly. We find a square-built, blocky

horse that has the ability as well as the willingness to work. Why not apply the same horse-sense when selecting our breeding stock in the apiary?

If this method of selection is followed for a few years there will be no more short-tongued bees in your apiary. Then, too, you will not see one colony working on some vile weed, and storing strong, black honey while the colony beside it is storing beautiful white honey from second-crop clover, or from some other plant with a deep corolla.

J. M. RANKIN.

REPORT OF THE COMMITTEE ON A MODEL SCORE-CARD.

The committee appointed at the National convention in Chicago, to draft a model score-card to be used in judging bees, honey, etc., at fairs, was appointed so late in the meeting that they could not get time to decide on various points, and after much corresponding they have decided to offer the enclosed score-card—not as a perfect score-card, but as a help, and with the hope that it may be tried in various parts of the United States, and then be so modified by another committee at the next meeting as to fill all demands:

General Display	Comb Honey	Quality 25	Variety 5 Perfection of capping .. 5 Completeness of " " .. 5 Straightness of comb .. 5 Sections, clean and neat 5
		Quantity 25 Attractiveness 50	Each variety of honey to be distinct of its kind.
	Extracted Honey	Quality 25	Variety 5 Body 5 Flavor 5 Style of package .. 5 Kinds of packages. 5
		Quantity 25 Attractiveness 50	
Single Case Entry	Comb Honey	Not less than 12 pounds nor more than 25 pounds. Points of judging as above, graded as white, amber or dark.	
	Extracted Honey	Granulated. (Separate entry.)	Variety 5 Fineness of grain. 5 Color 5 Flavor 5 Package 5
Nucleus of Bees in Observatory Hive	Color and markings..... 30		
	Size of bees..... 20		
	Queen 20		
	Brood 5		
	Quietness of bees 10		
	Style of comb..... 5		
	Style of hive..... 10		
Each race of bees to have the markings and color peculiar to its race.			
Queen-Bee	Quality 50 Variety 25 Style of cage .. 25	As per nucleus of bees.	
Beeswax	Color 30 Purity 30 Grain..... 20 Display..... 20	Not less than 10 pounds.	
Implements and Supplies.	Number of kinds..... 50 Appearance or attractiveness 50		
Bakings Candies and confections Honey-Vinegar Honey-Wine Fruits (canned)			Greatest number, sweetened with honey, recipe for making with each exhibit—1st Prize.

Respectfully submitted,

N. E. FRANCE,
W. Z. HUTCHINSON,
F. WILCOX,
R. C. AIKIN,
O. L. HERSHISER,
Committee.

In several places in this report Mr. and Mrs. R. C. Aikin's little daughter has been credited with having entertained the convention with songs and music on the piano, but Mr. Aikin writes me that Mr. and Mrs. Acklin's little daughter was our entertainer. It was a very easy matter to make such a mistake when two such bright and winsome Misses of so nearly the same age were constant attendants on our sessions.

A. B. MASON, Sec.

[THE END.]

Contributed Articles.

No. 5.—Extracted Honey Production.

Machinery Needed—Freeing of Impurities—About Heating—Why Some is More Watery Than Other.

BY R. C. AIKIN.

IN addition to the extractor there are knives, knife-pan, and oil-stove to heat same, capping box or can, strainer, and one or more tanks. The larger the tank the less trouble and the better the honey. Some use a tank of about a barrel capacity, a real barrel sometimes serving the purpose; such will do for a very few colonies. I will not specify a definite size of tank, but rather tell you what you ought to do, and then you can judge for yourself of the size best suited to your needs.

In extracting it is rarely that any foreign substances get in the honey but bits of wax and propolis. Wax weighs, I think, about 7 pounds to the gallon, being lighter than water, which is in round numbers 8, honey about 12, and propolis between water and honey. I will say, parenthetically, that if you are melting wax that has propolis in it, be careful not to let it get too hot, for the propolis settles to the bottom of the boiler and will burn there and stick fast to the boiler-bottom. I have just been melting a lot of top-bar scrapings composed of propolis and bur-combs, and altho I thought I was not letting it get too hot, yet it burned on the boiler-bottom.

Since the specific gravity of wax is but about $\frac{2}{3}$ that of honey, and propolis slightly heavier, but still lighter than honey, both will float. The thinner the honey the quicker will the impurities float, but it is very hard to have it thin enough either to do a good job of straining thru cloth, or to float out these substances in less than several days. Well-ripened honey should be at least three or four days settling at a temperature of about 100 degrees, and even then there will appear more or less specks after drawn into the shipping package.

Suppose you want to extract one or two thousand pounds in a day, and have but a 500-pound capacity settling-tank to receive it—you can neither strain nor settle it properly in that time unless heated to considerably over 100 degrees—I should say not less than 125. The most practical way is a tank of a capacity to hold the honey so you can let it settle for at least a week, and even then it ought to be in a quite warm place. If you want to do good work, and put out a well-ripened and a clean and nice liquid, use both time and heat liberally.

For several years I used a tank of 1100 pounds capacity, but when extracting 1,000 or 2,000 a day—even 600 or 800 a day—several days in succession, I found my tank altogether too small. A tank 2 feet across and 4 feet high will hold about 1,000 pounds. I now have one 5 feet across and 6 feet high, which holds 5 tons, is made of galvanized steel, and never overflows with a day's extracting. The outlet is in the bottom; the pipe is elbowed out beyond the tank, and all is set on a circular stone foundation built from the cellar floor to about two feet above the ground floor. A brick casing is built about the tank with two to three inches space between tank and brick, until the top is reached, when the brick is drawn in against the tank and mortared air-tight to retain the heat.

In the circular chamber beneath the tank is a range stove, and on this is where I melt honey, wax, and such work, and a little fire there helps to keep the tank warm. The chamber being of stone, and nearly the whole structure of stone, brick or metal, I can leave a roaring fire and no fear of a burn-out.

Speaking of heating honey, it does not absorb heat as freely as water. Set a chamber or hive of combs of honey in a warm room, and it will be many hours in getting warmed thru, at as high a temperature surrounding as 100 to 120 degrees. I often bring in a lot of extracting chambers and store them, and before extracting I keep the room at well nigh 100 degrees for about two days, then extract. I have so treated several tons, warming for extracting after the honey season was over—as late as November and December.

The consistency of honey varies quite materially, much depending on conditions while being gathered. If the flow be very slow, capping is delayed and the cells remain open, and the honey is exposed to the evaporating process for so long that it becomes very thick; but with a rapid flow the cells fill rapidly, and the free honey and constantly full honey-sacs cause a free secretion of wax and prompt sealing, sometimes even before the honey is sufficiently ripened. When nectar comes freely it is dropt into any available open cell, among the brood, near the entrance, in fact anywhere where there is found an open cell, big or little. When the flow lets up, or stops, then this scattered honey is gathered from here and there and stored regularly. Even a rainy day serves as a chance to put things to rights in a much disordered house caused by the previous rush to get all that was to be had while it was available. This unevenness will be observed at times by thick and thin streaks in the same combs, and some parts of a comb will extract much more freely than another.

All honey intended for table use should be put thru a settling-tank, and well settled. If it were feasible to get the honey heated to about 130 or 140 degrees before straining, then it would be possible with large but fine and close strainers to properly strain out the impurities; but the easiest way is large settling-tanks. The large tank, and time given, make a much more even grade of honey than can otherwise be obtained except by freely using heat. I am an advocate of applying some heat to the honey, but too much would be worse than none at all.

Another thing essential in a well-equipped honey-room, is handy water and washing arrangements. Where it is possible there ought to be water on tap as in waterworks of cities and towns. The water may be kept in a tank so that it can be drawn at any time. A waste-way or sink should be provided for dirty water, and a barrel with a cloth over it for all honey-washings, such as of cans that have had honey in them, honey-strainers, etc. This sweetened water can be poured into the barrel thru the cloth tied over the top, thus straining it as it goes into the barrel. Such savings will make first-class vinegar, and help out in the revenues.

Larimer Co., Colo.

Do Bees Injure Fruit by Taking the Nectar From the Flowers?

BY G. M. DOOLITTLE.

A CORRESPONDENT writes that a neighbor of his thinks he ought to give him several pounds of honey for the injury which was done his fruit from his bees taking the sweet out of the fruit-blossoms, this hindering the fruit from perfecting as fully as it would have done, had the bees not so taken the sweet, ending his letter in this way:

"Will you please tell us in the American Bee Journal whether there is anything in this claim? I do not wish to give out any honey as pay for damages, as it would be establishing a bad precedent, altho I generally give my neighbors several pounds of honey each, each year, for I like to see them enjoy it; and it also helps to smooth over any rough feelings which the bees may cause in any way."

I like the spirit of the last words from our correspondent very much, and know from experience that the giving of a few pounds of honey to all near-by neighbors will smooth over all bee-spots on drying clothes, an occasional sting gotten by a bare-footed child stepping on any bruised or partly decayed fruit which may happen to have a bee in or on it, etc., and I believe that nothing pays me better than the giving of some of the "first fruits" of my honey to those who may have a chance at some time or other to be annoyed by my bees. But while I so believe, I would never give out a pound of honey as payment for any damage done to flowers of any kind by bees working on them, for no damage is ever done. In fact, it is always the other way. The bees always help in perfecting any fruit which is visited by them while the fruit is in the blossom or flower

form. It is only from jealousy, coming from that innate weakness common to all, causing a restlessness to come over others by seeing the bee-keeper prosperous, that such demands are made of us bee-keepers, and to show any concession on our part at this point would be to "let down the bars" for a still greater call upon us.

No sooner did it go out by a gossip of our neighborhood, that "Doolittle was making money out of his bees," than a few about me began looking around, and when they saw bees at work on the bloom in their orchards, meadows and buckwheat fields, they began to reason that Doolittle was getting rich from that which *belonged to them*, and from this sprang the thought that the saccharine matter found in the flowers was placed there for the development of the fruit; and as the bees took away this sweet as fast as it was secreted by the flowers, an injury must result to the product coming from these flowers and their fields, which injury did much to enhance Doolittle's gains.

Since being in the queen-business more largely than in the honey-business, I have heard less of this than formerly; but from my own experience I doubt not that every prosperous bee-keeper has either heard something similar to this, or, if he has not heard it, his neighbors have talked it when not heard by him. I have even been asked for ten pounds of nice basswood comb honey as pay for what honey the bees gathered from a ten-acre field of Canada thistles, which the owner of the land had allowed to grow up thru his shiftlessness, he arguing that a pound of honey from an acre was a very light toll, indeed. When thus approached, I have always assumed the attitude of the injured or grieved one, and demanded a *cash* return for the service rendered the crop by the bees causing greater *fruitage* thru their properly pollenizing the flowers worked upon, and have always so presented my arguments that every party so approaching me has gone away convinced that I was right in claiming that better results always attended any crop which was visited by the bees in the blossom form.

I take a little different view of these matters than do most other people, going back to the creation of all things and telling how all fruit or grain of any kind was an entire failure till insects were created to visit the flowers which secreted *nectar*, while those that did not secrete nectar bore fruit as perfect then as to-day. Of course, thus far, all is a matter of conjecture, but it serves the purpose of getting the thoughts of the one talked with from what he considers a grievance, over to a line of thinking where he is at least a little pliable toward the bee side of the matter. From this I go on to explain how that the first object of nectar in the flowers was *not* for the perfecting of fruit, or to be used as a food or luxury for man, nor even to sustain the life of the bees, but as a means to an end, and that this end was that *insects of all kinds* might be drawn to the flowers so secreting, that the fruit, or female blossoms of plants which could not possibly be fertilized in any other way, might be fertilized thru the agency of *insects* which would be attracted to these flowers by the tempting and attractive morsels of sweet they spread out before them as a sumptuous feast, while honey as food for the bee and for the use of man came in as a secondary matter or item.

I then proceed to dwell on insects other than the bee, and show that these outnumber the bees by scores, as all close observers well know, showing that to claim damage of any one from these would be something not to be harbored for one moment.

Having gotten the thought now fully on my side of the matter, I next proceed to quote from Gregory's treatise on squashes, where he says, "The *primary* reason why a squash grows, is to protect and afford nutriment to the *seed*"—the use of it as food being a secondary matter, and thru this line of reasoning prove that the primary object of the nectar placed in the blossoms of the squash was to draw insects to the blossoms, as the female blossom is of such shape, and being hid down in the leaves, that pollination could not be effected in any other way, and thus neither seed, nutriment, nor anything of the kind could be obtained, were it not for the insects which were attracted by that little nectar which was placed in these for the *sole* and *only* purpose that the seed to the *squash* might perfect.

I then go on to give Gregory's experiments of covering the female blossoms so no insects could visit them, and without a *single* exception, every such covered squash-blossom was abortive. I also tell how bees were once banished from the town of Wenham, Mass., the result being that no perfect fruit was found in the interior of that township until the bees were requested back again; winding up by asking, "Why, then, is nectar placed in the flowers?" This nearly always brings an answer more or less favorable to

the bee, which I make more impressive with, "To attract insects that the blossoms may be properly fertilized, *primarily*; and, secondly, for food for these insects, which food for insects, in the case of the bee, is utilized by man." And by this time the man or woman who came with a grievance, as he or she thought, is won over to the *insect* side, if not to the bee side, and I hear no more of paying for damages done to flowers by the bees.

Let our correspondent try this line of reasoning, rather than giving any honey or anything else to pay for damages claimed to be done thru his bees to the flowers in his neighbors' fields or orchards.

Onondaga Co., N. Y.



What About the Hare?—Will It Become a Pest?

BY FRIEDEMANN GREINER.

THE reports on the Belgian hare in this and other papers are somewhat conflicting, and people's opinions go widely apart. Mr. Martin says in *Gleanings in Bee-Culture* that after an absence of nine months from Los Angeles he finds the hare-business—which had been in a flourishing condition before he left—dead and gone; and, further, that the hare-meat can not compete with other meats.

Mr. Morrison in the same number of *Gleanings* says that one firm in Melbourne sent 5,000,000 canned and frozen rabbits to England; further, that he can buy in Bermuda a whole imported canned rabbit for 24 cents.

Mr. Martin's and Mr. Morrison's statements do not exactly harmonize, and yet are not so very far apart. Mr. Morrison does not speak of the hare-business from the fancier's standpoint. Mr. Martin evidently does. The conservative observer has been quite sure from the very beginning that the life of a \$500-hare boom would be short. There may be a few, who in the future will be willing to pay \$5.00 or \$10 for a pedigree hare, but the majority of hare-growers must grow the animal for meat-stock and so can not afford to pay exorbitant prices for breeding-stock, particularly as the difference between the 50-cent hare and the \$500 animal does not lie in the latter's greater size, vigor, higher quality of the meat, or any other important feature, but merely in the slight difference of his color, which disappears when the pelt is pulled off. The 50-cent hare has more white hairs on the legs and underside than the other, but is just exactly as good for the table. That is what we raise the hare for, and therefore can not see good business sense in it, to pay these fabulous prices.

Why the meat of the hare could not be made to compete with other meats I fail to see. It certainly does in our own home, and others that I know of. We like variety. A few years ago we got tired even of capon meat. My better half said she did not like those great 10-pound carcasses; they lasted too long. A hare seldom dresses much over 4 pounds and we can "make away" with one at a meal, perhaps leaving just a few of the choicest slices to put into the dinner-pails of our children to take to school. We aim to have rabbit on the table once a week at least; we enjoy it and I believe when the public becomes acquainted with this diet, there will be a call for it.

Mr. Morrison also says that in Australia the rabbit can not be called a pest. I judge from my experience that it will not become a pest here. I can understand that in a congenial climate, with no enemies, the liberated hare might increase rapidly and in the end overrun the country. But there is no danger of that in America where his foes are legion, and the numbers of hunters outnumber the game. One might turn out a large flock here, but he will not see them increase to any appreciable extent. My experience is they soon decrease in numbers. It would indeed be a lucky accident to see a young outdoor brood of hares grow up to maturity unharmed. A grown hare may for a time hold his own, but he is always in danger, and I would not want to keep a valuable animal except within a tight enclosure.

Not long since the Illinois State Horticultural Society passed a resolution concerning the hare as follows:

"Resolved, That it is the sense of the Illinois State Horticultural Society that hares should in no case be permitted outside of strong cages or enclosures, and that we earnestly request the general assembly of the State of Illinois at its approaching session to enact a law providing, etc., and affixing suitable penalties upon their owner in the event of their being allowed to escape, etc."

Senator Dunlap, president of the society, stated that it

would probably be better if the society would petition the legislature to enact a law to prohibit the growing of the hare within the State. A comparison was even drawn between the hare and the English sparrow.

These good people are unduly scared. I will admit it might be unwise to turn a large lot of hares loose into a young orchard in the winter-time. I very frequently turn out 10 or 12 of the animals at any time with 600 young fruit-trees growing near by, which I would not have injured for all my hares. Yet I have not the slightest fear that any of the trees will be damaged. The fact is, I have never had a tree injured, neither by the wild rabbit, which within three years was very plentiful here, nor by my hares, except when the fruit-trees had been planted in the hare enclosure. The woodchuck is the destroying foe among our fruit-trees—not the hare; and the States could well afford to pay a bounty for every specimen killed; the hunters would take care of the hares. In some localities nurserymen sustain heavy losses by the work of wild rabbits, it is true; but a few hunters with dogs and ferrets will clean out (glad to do it) an infested district in a short time. I do wish we had more wild rabbits.

The hare—because less cunning—could be subdued and cleaned out much more easily and quickly than the wild rabbit. However, nobody need be afraid that any hare-grower would liberate and give up ownership of his stock as long as they are as valuable for food as they are. There is absolutely no need for legislation against the hare altho I believe California has a law against liberating hares.

Sometimes when I wish to dispose of surplus stock, to make room, I kill a number of them at a time, stew the meat and can it in our regular one or two quart glass-cans. Thus prepared it is ready any time for lunches or other culinary uses.

I am not sure that the hare industry is the coming industry, as Mr. E. T. Abbott puts it, or that it ever will assume gigantic proportions as to become a leading industry, but I am sure that it will always be and remain a pleasant auxiliary for the production of choice meat, for one's own table at least, and at a very low figure. In my individual case, if I had several hundred grown animals now on hand I could very easily dispose of them at 15 cents per pound.

Ontario Co., N. Y.

A BROTHER'S TESTIMONY.

I will add that my brother Friedemann, is hardly enthusiastic enough about the value of the Belgian for meat stock. In quality, the meat is unsurpassed—I believe even unequalled—by the meat of any other domestic animal, the capon not excepted. A well-roasted young Belgian hare is a treat, indeed.

In a general way, Friedemann has given the facts in the case.

T. GREINER.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Death-Rate of Bees in Cellar-Wintering—A Foul-Broody Deal.

1. I put 72 colonies of bees into the cellar Nov. 22d to the 26th, just after a good flight, but found many dead bees on the bottom-boards, which were all cleaned out. About one-third had a $\frac{3}{8}$ -inch entrance, and the balance $\frac{3}{4}$, and nearly all of the latter were raised and $\frac{1}{2}$ -inch blocks put under the front end. As there seemed to be more dead bees than usual on the cellar floor, I made a note of all, swept up since Jan. 16th, which is as follows: Jan. 16th, nearly two quarts, and one hive spotted; Jan. 24th, nearly two quarts, and four hives spotted; Feb. 1st, $1\frac{1}{2}$ quarts, and eight hives spotted; Feb. 7th, $1\frac{1}{2}$ quarts, and 12 hives spotted; Feb. 14th, two full quarts, and 15 hives spotted.

Is the above an average death-rate, or is it above the average? Would it be best to put the bees out for a flight on a good day, and then return them to the cellar? The

cellar is rather damp; it was tiled Nov. 1st. The temperature has been from 40 to 48 degrees.

2. A bought bees of B—7 colonies at \$3.00 each, in April, to be paid for with honey produced by the bees, (but not to be confined entirely to 7 colonies). Six of the seven were affected with foul brood, unknown to the buyer (and supposedly unknown to the seller). The bees being black, part of them were used for rearing queens to requeen the rest, and divided into nuclei. (Don't say A was foolish—he did not know there was any foul brood in Iowa.) Result: 11 colonies have been treated for foul brood, 2 of them absconded, one full colony and one 3-frame nucleus were sulphured, and three of the treated ones died during winter, probably from the boiled honey; \$7.00 has been paid. Now, without any thought of the legal points in the case, what would be right and just to both parties? Ought A to pay the full amount to B, or has he paid enough? Only one of the seven colonies stored any surplus honey.

IOWA.

ANSWERS.—1. There is nothing very unusual about the mortality, but so many hives being spotted so early in the winter gives occasion for some uneasiness. When a cellar is damp it needs a higher temperature than when dry, and it is possible that a higher temperature would have prevented all spotting of the hives. The temperature was rather low in any case if it ranged evenly from 40 to 48 degrees, for that would be an average of 44; and if most of the time it kept near the lower limit the case was still worse. Unless they are very bad, it is hardly advisable to put them out of the cellar until they can stay out. Experience has shown that when put out and returned to the cellar they are not likely to do very well. But it may be advisable to put them out earlier than you would do if they were perfectly healthy.

2. The probability is that the moral and the legal view of the case would closely coincide. If a merchant were to sell you by mistake sand instead of sugar, he ought not to be paid more than the value of the sand, and the fact that he was ignorant of the character of the material sold would not in the least degree enhance the value of the sand. The cases are not exactly parallel, for while one might be willing to accept sand at a price sufficiently low, he would hardly want to accept foul brood without being paid for taking it.

A Beginner's Questions.

1. I had one colony of bees last spring, and they worked well at first, but after the first swarm they stopt work. What made them do that?

2. Four years ago I had a colony that swarmed three times. They worked all the time till all the flowers were gone. I put all the colonies into the cellar and in the spring they all died. Do you think the cellar was too damp for them?

3. How long does a worker-bee live—40 or 60 days?

4. How many drones does the queen have with her during the working season?

NEW YORK.

ANSWERS.—1. The probability is that there was no work to be done, that is, no honey in the flowers. Sometimes the flow ceases when there is no apparent reason for it. Then it may start again without any difference that one can see. It may be, however, that you mean that this one colony stopt work while others continued to work. The fact that it swarmed was enough to account for at least a very great decrease in the amount of work, because work can only be done where there are workers, and when that colony swarmed most of its workers went with the swarm. You will find it invariably the case that when a colony swarms there is a great falling off in the work of the mother colony.

2. It is impossible to say without knowing more about the case. If the cellar was very damp, that would of course be something against their chance of wintering well. But no matter how good the cellar, you ought not to expect all to winter well when a colony swarms three times. Under ordinary circumstances two or three of the colonies would be weak for good wintering. The mother colony would be greatly weakened by so much swarming, and the second and third swarms would hardly be strong. But that does not account for the death of the first swarm, and one can only guess that a cellar too damp or too cold, or too little ventilation of hive or cellar, or both, or some other thing was the cause of the loss.

3. The life of a worker-bee depends upon the amount of work done, and so to a great extent on the time of year.

A worker that enters its career just after all work in the field is over has little chance to wear itself out with work, so it may live six months or longer. If it starts in when there is work for all hands, say the last of May, it will live about six weeks.

4. There is no rule as to the number of drones to be found in a colony during the working season. Other things being equal, the number is likely to be more with an old than with a young queen. The harvest has something to do with it. If the harvest is fitful or poor, the chances are not so good for a lot of drones to be allowed in the hive. The combs make a difference. Less drones will be found in a hive with little or no drone-comb.

Building Up Weak Colonies—Stimulating Brood-Rearing by Feeding.

1. I read that sometimes even very weak colonies—say covering only one comb—build up in very good seasons so fast that they make not only strong colonies, but even store some surplus honey. Now, do you think it would be advisable to-day to divide a colony covering eight frames into eight nuclei, giving each a young and fertilized Italian queen? As we expect a very good season, if the strong colony would give 300 pounds of surplus extracted honey, would not the eight colonies (or nuclei) build up so well that I could get from 60 to 80 pounds from each?

2. Is it of any use to feed for stimulating brood-rearing in the spring, if the colonies still have plenty of honey? What can I do to stimulate them? CALIFORNIA.

ANSWERS.—1. It is true that a nucleus with bees enough to cover only one comb may build up into a strong colony and give some surplus. It is also true that a strong colony may go thru a good season and yield no surplus whatever, being weaker in the fall than in the spring. Both are very exceptional cases, and it will not do for a beginner, nor indeed for any one to take either extreme as a basis. There is of course a possibility that an experienced bee-keeper might divide a colony covering eight frames into eight nuclei and obtain from each a surplus of 60 to 80 pounds in your wonderful California. The probability is that he would obtain no surplus whatever, if indeed no feeding were necessary. It is hardly advisable to start a nucleus with less than two frames of brood with adhering bees, and even then you should not expect wonders.

2. It is a little hard to say. If there is an abundance of stores in the hive, stimulative feeding may do little or no good, and if unwisely administered it may do harm by starting the bees flying when they would be better off in the hive. A beginner may do as well to see that a colony has abundance of stores, and then let it alone.

Mice Trying to Reach the Bees.

My bees have had no flights for over a month. I find that mice have tunneled thru the snow to get at the dead bees as they fall at the entrance. They have gnawed some trying to get inside. Do they do any harm? If so, how can I avoid it? PENN.

ANSWER.—Of course the mice do no harm by eating the dead bees thrown out at the entrance; but they may do harm, and a whole lot of it, if they make their way into the hive. Mice in a hive will eat the honey and the bees, and they will destroy the combs. If they did neither of these things they should still be outlawed because of the harm they do by disturbing the bees at a time when entire quietness is desirable. Of course the entrance should be large enough so that a very little gnawing would be necessary for a mouse to gain admittance. But there is no need to admit the mice were the entrance ten times as large. Close the hive with wirecloth having about three meshes to the inch. That will allow free passage for the bees but exclude the mice. If not convenient to get such wirecloth, you may make a fence of wire-nails at the entrance, setting the nails about a quarter of an inch apart.

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* The Home Circle. *

Conducted by Prof. A. J. Cook, Claremont, Calif.

THE HOME CIRCLE.

Isn't that an excellent heading for a new department in the "Old Reliable?" What is there on this mundane sphere comparable to the home? Demolins in his "Anglo-Saxon Superiority," which every one of our readers would do well to read and study, puts Home as one of the chief reasons why the Anglo-Saxon has outstript all the Latin races.

It is said that the French have no word for home. Aren't they to be pitied? How the very word "home" stirs us all, and how the very thought of it makes us purer and better. If the word and the thought count for so much, what shall we say of the thing itself? Demolins' work has gone thru many editions and has stirred the French people deeply.

Another work which all of us will do well to read very carefully—I have read it twice—once in the Outlook, and again in book form—is, "America's Working People," by Charles Spahr. Over and over again our author shows how much the home has to do in making the good neighbor, the thrifty citizen, no less than the patriot. In speaking of homeless workers, Spahr says, "And thus the greatest incentive to thrift was removed." He adds further, "On the side of citizenship, the gains that come from home ownership instead of tenantry are still greater."

It were quite superfluous to talk to any Americans regarding the priceless boon that we as a people possess in our delightful homes. What gives one a heavier heartache than to see a man or woman plodding along thru life alone or homeless? Our bee-keepers are almost universally blest with beautiful homes. I have so often enjoyed the fellowship of these little "heavens on earth" that I speak with no light emotion regarding them. How well I remember spending one Sunday in one of these, a little west of Chicago. The man's name was not Dr. Moth, but he did have a charming home. What a lovely Sunday that was. What solid delight we took, all thru its hours and away into the night. It was a home where the best love and fellowship reigned continuously. Ah, better than this, it was a home where God's word was read, studied and revered. It was a home where Christ's incomparable teachings were obeyed and where His spirit shone forth. I have been a better man, I am sure, ever since I made that Sunday visit. How we did enjoy the morning talk, how precious was the hour of family prayer, how delightful the church service, and how long-to-be-remembered the Sunday-school where our host was the attendant; and what a blessed afternoon and evening completed this, one of the most delightful days of my life. How often I have wished that I might do something to multiply such homes. It is the privilege of every one of us to help to make at least one such center of good purpose and wholesome influence.

Perhaps I have said enough at present in regard to the Home part of our department. Especially is this true as we shall weave in every week hints and thoughts of how the glory of the home may be promoted, and its blessedness made to touch with its hallowed influence many who perhaps have never enjoyed one of their own "Home Circle." I like that word "Circle." A circle has no end; neither has the influence of a good home. Who of us does not remember the cozy circle of our childhood? How delightful it was as we gathered about the table—father, mother, brothers and sisters—in the long winter evenings. One read the fascinating book while others at the apple-paring or in restful leisure listened and commented. Ah, those were precious circles! Father, mother, possibly some of the others of that gracious home circle mayhap have now gone to the greater circle which indeed shall have no end. But the influence is not gone. The mother-love still is the leaven that sweetens and brightens our hearts and lives; the father's good counsel and worthy example still guide us away from life's pitfalls; the loving brothers and sisters still walk by our side tho long gone to the realms of the blest. Many of us have since formed the home circle for ourselves, only to repeat what glorified our childhood homes.

It is indeed a good department of the old American Bee



Mr. E. J. Baxter and his Home Apiary, of Hancock Co., Ill.—See page 163.

Journal. It will be my earnest hope and determined effort to bring into it something each week that may happily quicken joy and lessen grief. May I not hope to have the aid of all our readers in making this department something that will be looked forward to, week by week, as precious to those who even may not longer have interest in the apiary?

A. J. COOK.

MAXIMS FOR THE HOME CIRCLE.

I copy the following from the "Intelligencer." I know nothing of this paper, its editor, or whereabouts, but I do know that if it has much like the following it is certainly rightly named. As I read over the following, "How to Make Happy Homes," the methodist in me (and I claim to have not a little) gave forth a most hearty "Amen." As I read it later about the "home circle," I found the "Amens" came twice-repeated.

1st.—"Learn to govern yourselves and to be gentle and patient."

What could we covet more wisely for our children than that they follow this maxim? The best way to secure this is to follow it ourselves. A man who kicks or strikes his cow is bequeathing to his children a very questionable heritage. I know a man who once moved, I think, as many as twenty times during a milking, and every time with a gentle "So, boss," and a more gentle press of the teat. The poor cow had a deep sore on the nipple. To have whipt and scolded would have been rank cruelty. Such an exhibition before a child would have been a grievous blunder. I know of a father who lived to be 85 years old. He was a fine example of physical energy and had an impetuous spirit, and yet tho I knew him very intimately, I never heard him utter a word that favored in the least of harshness to the dear, loving companion who was indeed a true helpmeet. I know a boy, tho hardly now a boy, for he is on the 30 side of the 20's, who tho he has the same spirit and temperament of the man just mentioned, yet I never knew him to lose his temper or show impatience. His parents told him as soon as he could understand that it was manly to govern one's self. They acted their teachings as far as possible. Need I say that the result has made glad hearts?

2d.—"Guard your tempers, especially in seasons of ill health, irritation, and trouble, and soften them by prayer and a sense of your own shortcomings and errors. Remember that valuable as is the gift of speech, silence is often more valuable."

That is good advice. A home where such counsel prevails is a glad presence in any neighborhood. Who of us has not regretted with anguish of heart the angry word, or the irritated demeanor? How glad some in the home is the temper that is ever controlled. How fortunate the one who can lay hold of silence when to speak is to wound. Even the bees resent the nervous, irritating mein.

3d.—"Do not expect too much from others, but remember that all have an evil nature whose development we

must expect, and that we should forbear and forgive, as we often desire forbearance and forgiveness ourselves."

I will only add to this Christ's incomparable words—"Father, forgive them for they know not what they do."

4th.—"Never retort a sharp or angry word. It is the second word that makes the quarrels." This is hardly more than the 1st and 2d. Government of self and temper controlled, will always stay the angry word. The quarrel is never manly, and we do well to remember that it always takes two to make one.

5th.—"Beware of the first disagreement."

What better advice than this could be given the twain who are just forming the home circle?

6th.—"Learn to speak in a gentle tone of voice." We can hardly understand how much seeming trifles like the voice-tone have to do with character. The description of Cordelia in Lear—"Her voice was gentle, soft, and low—an excellent thing in woman," is suggestive. A low tone, even in times of excitement, will generally effect more than bluster. Nervous and excitable children, especially, should be urged to gentle speech for it will surely bear fruit in character.

7th.—"Learn to say kind and pleasant things whenever opportunity offers." In other words, "Blessed are the peacemakers, for they shall be called the children of God."

8th.—"Study the character of each and sympathize with all in their troubles, however small."

We may couple with this, "Inasmuch as ye have done it to one of the least of these, ye have done it unto me."

9th.—"Do not neglect little things if they can affect the comfort of others in the smallest degree."

Who has not seen homes that were constantly all aglow with little, thoughtful acts?

10th.—"Avoid moods and pets and fits of sulkiness."

If anything would convert us to the theory of the brute ancestry of man, it would be to see him in the sulks.

11th.—"Learn to deny yourself and prefer others."

This was the very essence of Christ's whole life and teachings.

12th.—"Beware of meddlers and tale-bearers."

I would add, Let us be very careful that we do not join their gruesome company.

13th.—"Never conceive a bad motive if a good one is conceivable."

Could we do otherwise if we obey the Golden Rule?

14th.—"Be gentle and firm with children."

I will add that if anything will keep a child in the right way it is that sacred thing—the mother-love. God pity the child who is bereft of it.

15th.—"Do not allow your children to be away from home at night without knowing where they are."

Is it not wise, also, to be with them ourselves? Their fullest confidence will prevent much mischief.

16th.—"Do not allow the children to go where they please on Sunday."

I know from a blessed experience that a home that is made to hold the children on Sunday will ever have their reverent gratitude. The home circle ought to keep the children at night and on Sunday.

17th.—"Don't furnish them with much spending money."

I have known many college boys ruined by a plethora of greenbacks. I have known many to be made magnificent men by the stringency of hard fortune. To the man who hands out money in fullest measure to his son, I would simply say, "Don't."

HELPFUL SUGGESTIONS REQUESTED.

I shall welcome hints for the home, recipes for table articles, and any other helpful suggestions.



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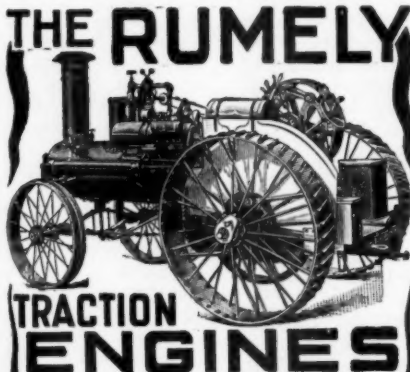
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Prospects Bright—Losses by Fire.

The prospects for our bee-keepers appear to be much brighter than they were last season. We have had a pleasant winter so far—not very warm and not very cold, and reports are that as a rule where bees went into winter quarters in fairly good condition they seem to be doing very well. The snowfall is heavy, and distributed thru the State, and it is still storming; this all insures a bountiful supply of irrigation water. The chances for a drouth the coming season are growing beautifully less each day.

I read the notice of your loss by fire with much regret. Some of our bee-keepers have been badly scorched, so that they know how to sympathize with you.

On May 1, 1896, I was awakened by a roar of fire, and got out just in time to see 50 colonies burned up in less than half that number of minutes. The fire was in a two-story lumber barn belonging to a neighbor.

I live on a lot 5x10 rods, with a street in front, and four close neighbors, and only five blocks from the business center of the city, yet in 17 years I have never had a complaint, which, judging from the troubles of some of our bee-keepers, would indicate a difference in management. I have kept from 10 to 50 colonies each year.

E. S. LOVESY.

Salt Lake Co., Utah, Feb. 20.

Bees in Fine Condition—Marketing Honey.

My bees are in fine condition, and I think they are going to winter without any loss, as they always have. I have lost but one colony since I began keeping bees; that was last winter, and I am ashamed to say that it was due to a leaky cover. In the last issue of Gleanings in Bee-Culture Editor York speaks of the small producer ruining the market by selling for less than the market price. That doesn't hit me, because I get 20 cents per section for my comb honey; the extracted I put up in pint Mason jars, and sell it at 30 cents a jar.

JESSE M. DONALDSON.

Worcester Co., Mass., Feb. 23.

Prospects Poor for Southern Indiana.

The thermometer has been at 10 degrees above zero for the past three days, after three weeks of mild spring weather, which started heavy brood-rearing in all colonies having plenty of stores. This will cause great losses to southern Indiana bee-keepers. The winter so far has been so open that most colonies have consumed nearly all of their stores.

There has been very little snow to protect the clovers, altho sweet clover can stand the most exposure. I am experimenting with a large number of honey-producing plants. In the river bottoms I had an acre of sunflowers that gave lots of seed for the chickens, and the bees work on them continually last season.

J. C. WALLENMEYER.

Vanderburgh Co., Ind., Feb. 22.

Rendering Wax from Old Combs.

In rendering wax out of old combs I use the following method:

Take the bail off of a 2-gallon tin pail with flaring sides, nail a stick about three feet long to the pail, so that it will project upward, then with a hammer and a 4-inch spike begin within two inches of the top to perforate the pail all the way around, and to within 3 inches of the bottom. Fill a big iron kettle about two-thirds full of combs and water (better soak them some, also break or chop them up). Hang the kettle in the yard, and start a good fire under it about sundown, if the bees are flying. After the mixture has boiled a little while take the perforated pail and begin pushing it down into the melted



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3D4t Please mention the Bee Journal.

mass with a circular motion (it will take some time to get the hang of it), and as the wax flows thru the perforations I use a tin cup, or something similar, to dip out the wax and pour it into a tub half full of cold water, to be caked up in the usual way later.

The beauty of this method lies in the fact that we can keep a good fire going and keep putting in combs and taking out wax, and to facilitate matters have a wash-boiler of hot water on the cook-stove, from which we can get warm water when needed, instead of using cold water. After too much refuse accumulates in the kettle, throw out the mass and begin with a new batch.

I melted the combs from 17 of my hives last season, besides working up those from 50 or 75 on shares. Those that we work on shares we melted in the woods near a pond, and used three kettles with fire under each.

Instead of there being 50 or 75 hives of combs I workt up what was left from about 145 colonies of bees. There were from 30 to 35 bushels of combs after they were stampet down in the wagon-box. That put the perforated pail to a severe test, and it workt splendidly.

I don't think the different solar wax-extractors are to be compared with my method of rendering wax.
C. A. BUNCH.

Marshall Co., Ind., Feb. 23.

Poor Seasons—Producing Extracted Honey.

I began the spring of 1900 with 100 colonies, and secured 2,800 pounds of surplus honey, about 500 of it being comb, but secured no increase in colonies.

We have had three poor honey seasons in succession, and bee-keepers are blue, but I expect to hang on to the bees until the good seasons come again. The coming season will be my 21st one in bee-keeping. I have been a constant reader of the American Bee Journal for about 18 years, and consider it the best bee-paper publisht.

I notice that some of the expert bee-keepers allow the queen to roam around at her own sweet will, when working for extracted honey. My experience is that a first-class article of extracted honey can not be produced in this way, as pollen is sure to be stored around where the brood is reared, and this will cause the extracted honey to taste bee-bready (as we call it). This I know to be a fact here. From an experience of about 20 years in producing extracted honey, I claim that the place for the queen is in the brood-nest, and I would have queen-excluders for this purpose, if they cost \$1.00 apiece. I don't want them when working for comb honey, as the queen seldom lays in the sections.

We should take as much pains to produce a No. 1 article of extracted honey as of comb, and in order to do this where much pollen is gathered we must keep the queen out of the surplus department.
B. W. PECK.

Ashabula Co., Ohio, Feb. 8.

Southern California—Queenless Colony.

The old saying, "It never rains but it pours," comes nearly being verified in Southern California this winter. Up to the last of January it lookt as tho we were bookt for another dry season, at least in San Diego County, but it rained every day but one from Feb 1st to 10th, and the ground got such a soaking as it has not received in 3 years. And now all are rejoicing, for it is pretty certain that we will have good hay and grain crops, and when these crops are good we are sure of a good honey crop. It will also be a great benefit to orchards and vineyards—even to those that have water for irrigation in summer. We have had a few showers since the soaking, and vegetation is coming on rapidly. Bees are rearing brood, and they are bringing in more than enough honey to supply their needs. I have found 2 or 3 frames of new honey in some hives.

A friend who had a couple of colonies, did not care to keep them, so gave them to me, saying that if they stored any honey the coming season, I could give him what I thought was right. After getting them home I found

Belgian Hares

CHEAP.

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Having bought a Job Lot of a neighbor and added to what I had, I must dispose of same to make room for my increase. They are mostly young—3 months and over—with a few bred Does. ALSO

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The prizes to be awarded in the following named amounts and paid December 1, 1901:

\$250.00 for largest yield	\$50.00 for 4th largest yield	\$10.00 for 7th largest yield
\$150.00 " 2d "	\$25.00 " 5th "	50 prizes, \$5.00 each
\$100.00 " 3d "	\$15.00 " 6th "	50 " \$2.00 " \$150

MAKING A TOTAL OF \$1,000.00

Those contesting for one of these Prizes must send affidavit of yield with sample of corn, when mailing report; also report mode of cultivation and fertilization.

ONE QUART "EPITOMIST PRIZE"

White Dent Corn

This is a variety of corn of remarkable characteristics. It produced last year on the Epitomist Experiment Farm eighty bushels to the acre under exceedingly unfavorable conditions. The land on which it grew was of medium fertility only: the cut worms mowed it down, until there was, at one time, an intention of plowing it up, and, owing to natural conditions which we could not control, it received but one plowing. Corn that will produce eighty bushels to the acre under such conditions is exceptionally valuable. The length of the ears is from ten to twelve inches; the circumference is seven and a half inches and sometimes more; the cob is small and completely covered with grain; the grain will average a half inch in depth and same in width, and is unusually thick; the weight of grain and cob averages something over a pound, and there is over ninety per cent of grain. The "EPITOMIST PRIZE" WHITE DENT is an early variety that will mature anywhere within the corn belt, and to those who appreciate the value of corn fodder, it recommends itself, as it produces a luxuriant growth of stalk, many of which in our fields, were fifteen feet high. It is certainly the best variety of corn that we have ever grown or seen grown, and there is every indication that it contains an unusual percentage of protein, and the higher the percentage of protein the more valuable the corn. We have never seen stock of all kinds that was fed almost exclusively on corn, do as well as our stock has done upon the Epitomist Farm.

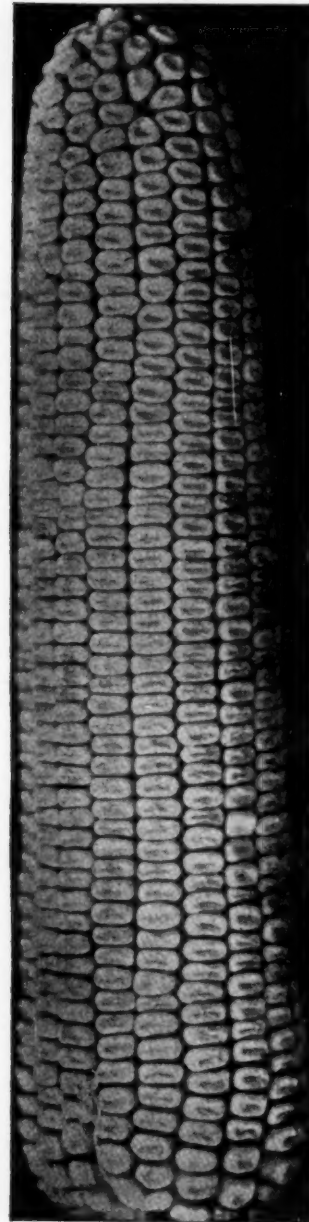
The Epitomist Experiment Station,

is without doubt the most beautiful spot in the State of Indiana. Over \$100,000 has been spent in improvements on this Experiment Farm, where Agricultural Epitomist is edited and printed amid the activities of real farm life. Its beauty of scenery and perfect climate, with its pure spring waters, are hard to surpass in any locality. We have at this Experiment Farm of 650 acres, all the different soils found in Indiana or in almost any other State, as well as the varied conditions requiring drainage, irrigating, enriching, etc., all to be included in our experiments which will be written up in the Epitomist from month to month. It is our purpose to experiment in all lines of Agriculture, Horticulture, Live Stock, Dairying, and Poultry Raising, and as the growing of this variety of corn which we have named "EPITOMIST PRIZE," is the result of one of our first and most successful experiments, we are not only going to give Epitomist readers some of the seed of this variety to raise, but \$1,000 in prizes the same to be awarded as described above.

Every subscriber to the Epitomist is entitled to participate in this contest. All we require is that you send 50 cents for one year's subscription to the Epitomist and 20 cents to pay for postage, packing, etc.—70 cents all told—upon receipt of which we will enter your subscription and send you one quart of "EPITOMIST PRIZE" WHITE DENT CORN by mail, postage prepaid.

THIS EAR OF CORN represents an average ear of "EPITOMIST PRIZE" WHITE DENT CORN and is taken from actual nature without flattery. The crop was grown this past season of 1900 at the Epitomist Experiment Station, and we feel that the remarkable results obtained justify us in expecting subscribers to derive unusual benefit therefrom.

Address **AGRICULTURAL EPITOMIST Box 321 Epitomist Experiment Station, SPENCER, IND.**
This Contest is for EPITOMIST Subscribers Only.



Natural Size, 10 inches in length; 7 1-2 inches in circumference; weight, 17 ounces.

one colony queenless with queen-cells started. I thought it very doubtful if any queen would become fertilized at that time of the year (Dec. 17,) as I had only two other colonies at home, and no drones to be found in any of them. (My apiary is 3 miles away.) In due course of time brood was sealed, but every one a drone, so I concluded that the next thing to do was to find a virgin queen, then the processes of Nature might go on unhindered. In looking over another colony for eggs I found a frame with a queen-cell nearly ready to be capped, which I gave to the queenless colony after removing the drone-layer, and putting all frames containing eggs and brood into another hive. In two days other queen-cells were started, then I put the drone-brood back and left them to work out their own family

affairs. Twenty-seven days from the time of putting in the frame of eggs, I opened the hive and found a queen with eggs in two frames, and plenty of drones. I expected to have a case of superseding in the hive from which I took the queen-cell, but yesterday I found plenty of eggs and brood, and concluded that her majesty had a greater reserve of vitality than her subjects gave her credit for.

F. C. WIGGINS.

San Diego Co., Calif., Feb. 20.

Using Chaff Cushions in Summer.

I have practiced leaving the chaff cushions on my hives all summer as well as winter, the last 6 or 7 years. I have tried both ways, and I find I gain at least 25 percent from the chaff-

covered hives. I have noticed in very hot weather the hives not covered with chaff would be nearly empty from 10:30 a.m., to 2:30 p.m., while those protected with chaff cushions from 3 to 6 inches thick, would be apparently as full of bees as they could be and do their work.

My wife often says that I do too much experimenting, but I find it brings me the knowledge I am seeking for. There is no branch of bee-keeping in which I have not experimented. This is a progressive age, and I feel that we can not do too much to further the work of our industry. A. D. D. WOOD.
Ingham Co., Mich., Feb. 15.

Last Season a Failure.

My bees did very poorly last season, getting no surplus whatever. I hope for better things this year. C. H. DAVIDSON.
Delaware Co., N. Y., Feb. 18.

Poor Report for 1900.

The year 1900 was a poor one for bees in this part of Missouri. We got no honey at all, and I am afraid that two-thirds of the bees will die during this winter.

JOHN N. MICHAEL.

Caldwell Co., Mo., Feb. 19.

Bees Wintering Poorly.

I fear my bees are wintering badly. The weather has been very cold and windy here for about four weeks. We have had no rain since last November, and but little snow.

HENRY ALLEY.

Essex Co., Mass., Feb. 25.

Dispersing Robber-Bees with Gun-Powder.

I have been a keeper of bees since the early sixties, and it goes without saying that I have experienced the usual ups and downs common to the craft; also many of the pleasant (?) experiences, as, for instance, a bad case of robbing—in short, I have been "up against it" many times.

During all these years I have read many ways of stopping this trouble, in the current bee-literature of the times, but I have never seen mentioned a plan that I have often used with unfailing success. I learned it years before I kept bees, from my grandfather who often quelled disturbances with old-time and well-tried remedies. His plan was to "blow up" the robber-bees with gunpowder. About a teaspoonful of powder is pushed into the entrance and then "touched off." I never knew this to fail but once, when I had an extremely bad case that had to be treated 3 times—the

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application. BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

BEES QUEENS
Smokers, Sections, Comb Foundations
And all Apian Supplies
cheap. Send for
FREE Catalogue. L. T. FLAHERTY, Baltimore, Md.

1901—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co.'s goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog. M. H. HUNT & SON, Bell Branch, Wayne Co., Mich.

last time with a charge of powder of sufficient force to lift the honey-board off of the top of an old-style Langstroth hive. Not the slightest injury was done to the combs, except that two or three of them were blackened a little at the extreme lower edge, and very, very few bees were killed—just the few that happened to be in the vicinity of the powder.

Some bee-keeper may hesitate to try such an energetic remedy, fearing to destroy or injure the colony, but he has no occasion for alarm, for he will do nothing of the kind. Gunpowder is a famous peacemaker among bipeds of the genus homo, and as the genus Apis seems to possess many traits common to man, why not employ the same means to settle their quarrels? With modern hives and large entrances I think a larger charge of powder could be used without doing harm.

PEACEMAKER.

San Francisco Co., Calif., Feb. 18.

Experiences with Bumble-Bees.

I notice on page 108, Thomas Wallace gives his experience with bumble-bees. This is a matter to which I have given a great deal of attention. When I was a boy I had a great longing to have bumble-bees, and experiment with them, and often had as many as six to eight small colonies in little boxes and tin cans. I often watch them flying to and from their homes the same as other bees, and I tried wintering them by burying them, but never succeeded.

I used to pour a pailful of water on them in their nests to keep them under control so that I could hive them, and closing everything up tight I would start for home and add another colony to my already started apiary. I have succeeded in uniting all of my colonies, and found that the only way to do it without fighting was to smoke them (after first closing the hives) with pennyray until all were in an unconscious condition, then I would empty all the colonies onto the ground, place all the combs in one hive, pick the bumble-bees up with my fingers, and put them all into the hive containing the comb. By this time they were recovering from the effects of the smoke, and all was well. Each one seemed to think the other its "best friend and brother."

I tried to introduce the bumble-bee queens into colonies of our common honey-bees, but a fight was all I ever succeeded in bringing about, and all the pay I ever received for my trouble was a pair of swelled eyes, and now and then a little fun. I would call the calves up close to the hives, then give them a few

sweet apples to attract their attention, then rouse the bumble-bees with a long pole, and get these fierce bumble-bees to use their "swords" on the calves instead of me. But I wanted still more fun, so I finally succeeded in getting the dog close enough to get the bees after him, but I got even more fun than I had bargained for, as the dog came toward me, wanting me to share the pleasure with him, and he succeeded, for he ran after me, and I ran to keep away from him, but one of the bees got into my hair, and I had a time of it getting it out.

After several years' experience I concluded that I might as well drop the bumble-bees; still I shall not be satisfied until some one tries the plan of grafting larvae of the bumble-bee into queen-cells or cups of the common honey-bee, making the colony hopelessly queenless and broodless, or by transferring the eggs of the bumble-bee into the comb of the honey-bee. The egg of the bumble-bee is always sealed, also the larva, and there seems to be about four different kinds of them—the worker, the queen, the drone, and there seems to be another "critter" among them.

The mating of queens is done toward the fall of the year, just outside of the nest, on the ground. All queens are reared in the latter part of the summer.

After all my experience with them I believe that if any benefit is ever derived from them it must be brought about by a cross between them and the honey-bee.

P. W. STAHLMAN.

Albany Co., N. Y., Feb. 18.

Worst Season in 10 Years.

The season of 1900 was almost a total failure in this locality—the worst we have had in 10 years. Bees did not get enough honey for winter stores, and had to be fed.

We have had an open winter up to this month, and some zero weather, but not much snow.

W. D. HURT.

Cass Co., Mo., Feb. 23.

YELLOW OR WHITE

Sweet Clover Seed

Free as a Premium

For Sending us One New Subscriber for a Year.

There has been so much written about both the white and the yellow variety of sweet clover, that we will simply say here that if one of our present regular subscribers will send us \$1 with a new name for this year, we will mail, postpaid, to the one sending the new name and the dollar, either one pound of yellow sweet clover seed, or two pounds of the white sweet clover. This is a good chance to get a start of both kinds of these honey clovers. Better send two new subscribers (with \$2.00) and get the three pounds of seed. Address,

GEORGE W. YORK & CO.

144 & 146 Erie Street, CHICAGO, ILL.

CONVENTION NOTICE.

Utah.—The Utah Bee-Keepers' Association will hold its regular spring meeting April 5th, at 10 o'clock a.m., in the City and County Building at Salt Lake City. All are cordially invited. We expect to get out a treatise or pamphlet, the object of which will be to give the best and quickest method to discover, cure, and prevent disease among the bees, and the best way to protect them from their enemies. It will also contain other matter for the benefit of the industry, including our State law. We will be pleased to receive communications from any of our bee-keepers upon any subject along the lines indicated. Address, Pres. E. S. Lovesy, Salt Lake City, Utah, or J. B. Fagg, Sec., East Mill Creek, Utah.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, March 8.—Fancy white comb sells readily at 16 cents, but all other grades are weak at the following range of prices: No. 1, white, 14@15c; fancy amber, 12@13c; fair amber grades, 10@11c; buckwheat, fancy, 10c; off grades, 8@9c. Extracted white ranges from 7@8c; buckwheat, 5@6c; Southern dark, 5@6c; amber grades, 6@7c. Beeswax in demand at 30 cents.

R. A. BURNETT & Co.

KANSAS CITY, Feb. 19.—Fancy white comb, 16@16½c; amber, 12@13c; dark, 10c. Extracted, light, 9c; amber, 7½@8½c. Demand fair; receipts light. Beeswax, 22@28c.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

CINCINNATI, Feb. 9.—The market for comb honey is becoming very bare, altho the prices have not changed. Fancy white comb is still selling for 16c; no demand for darker grades. Extracted is in fair demand; dark sells for 5½c; better grades from 6½@8c; only white clover brings from 8½@9c. Beeswax, 28c.

C. H. W. WEBER.

ALBANY, N. Y., Feb. 11.—Honey market is dull and prices nominal; light stock, but the cold weather is bad for it. Comb, in good order, not candied, white, 15@16c; mixt, 13@14c; dark and buckwheat, 11@12c. Extracted, white, 7@8c; mixt, 6@6½c; dark, 5½@6c.

H. R. WRIGHT.

BUFFALO, Mar. 7.—Fancy, 15@16c; No. 1, 14@15c; No. 2, 11@13c; No. 3, etc., 8@10c. Extracted, 8@9c. Beeswax, 27@28c.

All grades of honey selling fairly well, and looks as if all lots would clean up.

BATTERSON & Co.

BOSTON, Feb. 8.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

NEW YORK, Feb. 19.—Comb honey is being well cleaned up on our market. The demand has lessened to quite an extent, on account, we presume, of the high prices which have been ruling. Fancy white still brings 15@16c in a small way; No. 1 white, 13@14c; amber, 11@12c; buckwheat, 10c. Extracted rather dull and not much doing. California white honey, 7½@8c a pound; light amber, 7c; Southern, from 60 to 70c per gallon; buckwheat, 5@5½c. Beeswax steady at 28c.

HILDRETH & SEGELKEN.

DETROIT, Mar. 7.—Fancy white comb, 15@16c; No. 1, 14@15c; dark and amber, 10@13c. Extracted, white, 6½@7c; amber and dark, 5@6c. Beeswax, 27@28c.

M. H. HUNT & SON.

SAN FRANCISCO, Feb. 6.—White comb 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber, 6½@7½c; amber, 5½@6½c. Beeswax, 26@28c.

Considering the light output of honey last spring from California apiaries, present offerings are of tolerably liberal volume and are mostly of amber grades. The market is slow at the quotations. It is reported on good authority that adulterated and imitation honey is being dealt out in considerable quantity, which accounts in a great measure for the very limited business doing in the pure article.

HONEY MARKET.—We may have a customer within a short distance of you who wants your honey or beeswax. We are in close touch with all the markets; therefore write us regarding your crop, stating quantity, quality, and lowest cash price. References—Either Bank here for any business man in this city.

THOS. C. STANLEY & SON, Fairfield, Ill.

—DO YOU WANT A— High Grade of Italian Queens OR A CHOICE STRAWBERRY?

Send for descriptive price-list.
D. J. BLOCHER, Pearl City, Ill.
47A26t Mention the American Bee Journal.

For Sale Supply Dealers' Stock and Apiary, LOCATED IN MALDEN, MASS.

S. A. FISHER,
12 Pearl Street, Boston, Mass.
10A2t Please mention the Bee Journal

The Belgian Hare Guide

This book is acknowledged to be the finest and most reliable book out on the Belgian hare industry. It contains complete and practical information on the following and many other subjects pertaining to the industry: History and Origin, The Belgian for Utility, The Belgian for Fancy, The Business and its Outlook, How to Begin, Houses and Hutches, Foods and Feeding, Feeding Green Stuff, Mating and Breeding, Care of the Young, Pedigrees, Score Cards and Judging, Belgian Hare Color, Dressing and Cooking, Diseases and Remedies, Preparing for Exhibition, Crating and Shipping, Caponizing, Queries and Answers, Miscellaneous, Belgian Hares vs. Poultry, The Belgian in England, The Belgian in California, Black Belgians and Flemish Giants. It is elegantly printed on fine paper, illustrated with numerous beautiful photo engravings, and is substantially bound. No one interested in Belgians can afford to be without it. Send your order today. Price, 25 cents.

one interested in Belgians can afford to be without it. Send your order today. Price, 25 cents.

SPECIAL OFFERS.

For \$1.10 we will send the "Belgian Hare Guide" and the American Bee Journal for one year; or for \$2.00 we will send the Bee Journal for two years and the "Belgian Hare Guide."

Address, GEORGE W. YORK & CO.
118 Michigan St., CHICAGO, ILL.

We have a Large Stock on hand
and can ship promptly.

SEND US YOUR ORDERS FOR

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OR ANYTHING YOU WANT IN THE
BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

W. M. GERRISH, East Nottingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.



200-Egg Incubator for \$12.00

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.
GEO. H. STAHL, Quincy, Ill.

46A25t

Please mention the Bee Journal.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	60c	\$1.00	\$2.25	\$4.00
Sweet Clover (yellow)....	\$1.50	2.80	6.25	12.00
Crimson Clover.....	70c	1.20	2.75	5.00
Alsike Clover.....	90c	1.70	3.75	7.00
White Clover.....	90c	1.70	4.00	7.50
Alfalfa Clover.....	80c	1.40	3.25	6.00
Japanese Buckwheat.....	30c	.50	1.00	1.60

Prices subject to market changes.

Add 25 cents to your order, for cartage. If wanted by freight, or 10 cents per pound if wanted by mail.

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Wanted

A MAN OF PRACTICAL EXPERIENCE AND ABILITY to care for 150 to 200 colonies of bees. Address,

S. J. DUNNE,

165 S. Forest Ave.,

11A1f RIVER FOREST, COOK CO., ILL.

I ARISE



To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1901, at the following prices:

- 1 Untested Queen ..\$1.00
- 3 Untested Queens.. 2.25
- 1 Tested Queen 1.25
- 3 Tested Queens.... 3.00
- 1 select tested queen 1.50
- 3 " " Queens 4.00
- Select Tested Queen, last year's rearing..2.50
- Extra selected breeding, the very best..5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,

11A26t Borodino, Onondaga Co., N. Y.
Please mention Bee Journal when writing.

24th Year Dadant's Foundation. 24th Year

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Why does it sell so well?



Because it has always given better satisfaction than any other. Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

LANGSTROTH on the HONEY-BEE—Revised

The classic in Bee-Culture—Price, \$1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

\$200 Red-Clover Queen

Offer No. 35.

On September 1st last we announced that we finally had a red-clover queen fully equal to the one we had years ago. The colony of this queen has given one of the most remarkable showings on red clover of any bees we have ever had. The queen in question is an imported one, and therefore of the genuine pure leather-colored Italian stock. We sent out daughters from her all the season. But we did not discover her value until the clover season, second growth, came on, and then her colony so out-distanced all the other 450 that she attracted attention at once.

It must be understood that these queens are not golden yellow, neither are their bees of the five-banded stock. They are simply leather-colored Italians whose mother came direct from Italy.

Since the notice appeared regarding this queen we have hardly been able to supply all of the queens that were wanted from this stock. Many daughters of this queen we sent out before we knew her value, and it now transpires that some of the finest bees in the land are from queens we sent out early. We are now booking orders for the coming season, and make the following offer, but no queens will be furnished except those that subscribe for Gleanings, and only one with each year's subscription. All arrearages must be paid to the end of this year. Gleanings for 1901 and one untested red-clover queen, \$2.00; Gleanings one year and a tested red-clover queen, \$4.00; a select tested red-clover queen and Gleanings one year for \$6.00. We will begin mailing these queens in June, 1901. Orders are already entered, and the same will be filled in rotation. Do not neglect to improve this opportunity and get some choice stock, and send your order early so you may get the queen correspondingly early in the season. We are using every precaution to winter this queen safely, but reserve the right in case of her loss this winter to substitute from other select tested stock of this strain which we are holding in reserve, or to give the subscriber the benefit of any of our other clubbing offers if desired.

THE A. I. ROOT CO., Medina, Ohio.

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